HD-SDI FIELD RECORDER, MONITOR & PLAYBACK+PLAYOUT DEVICE

10-BIT HD/SD-SDI PRODUCTION WEAPON

THE SAMURAI

COMING SOON

CONNECT

ADD HDMI IN/OUT

HD-SDI

£995

€1145

Codec Upgrade

Avid DNxHD$^{\Delta}$

£89/€99

RECORD → MONITOR → PLAYBACK+PLAYOUT → EDIT-READY

UNCOMPRESSED 8/10-BIT

↓

APPLE PRORES® or Avid DNxHD$^{\Delta}$

↓

HDD | SSD

SAMURAI

SAMURAI 5.0"
800 X 480/16:9
384,000 PIXELS

Focus + Exposure Assist

On-screen or External Monitor

Instantly review and navigate your recorded footage

ProRes® | Avid DNxHD$^{\Delta}$

Broadcast 10-bit 4:2:2, 1920x1080

Mac & PC Compatible

MASTER CADDY HDD/SSD → DOCK FIREWIRE® 800 or USB 3/2 → MAC & PC COMPATIBLE

ATOMOS

ATOMOS SAMURAI
YOUR 10-BIT HD/SD-SDI PRODUCTION WEAPON

Simple-to-use 5.0" Touchscreen
Access all of the Samurai's operations via the fast, responsive touch interface.

The real power of the Samurai comes from **AtomOS**, our innovative and intuitive operating system.

One Touch Navigation allows for simple operation – everything is one touch away.

AtomOS upgrades are provided free of charge, via download.

Current Video Input Format and Pulldown Status
Displays native format from source signal ie. 1080i 59.94

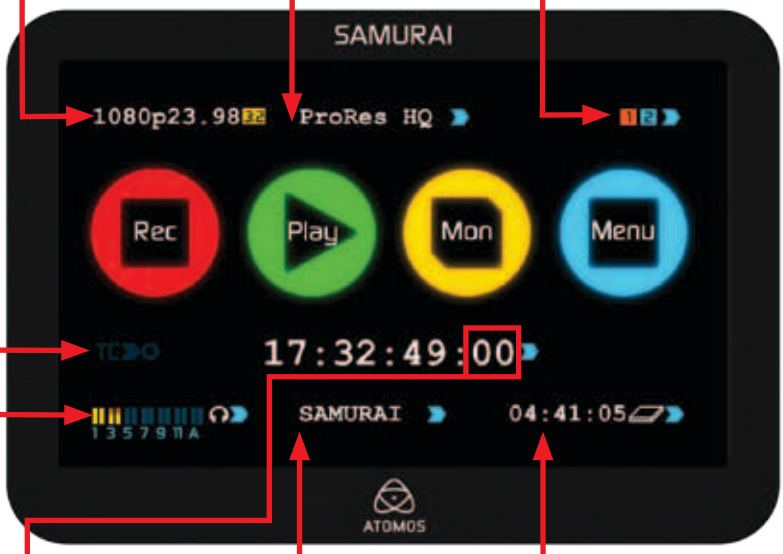
3:2 3:2 pulldown has been removed (reverse telecine applied) to record native 24p

Recording Format
Select which variety of high quality, edit friendly Codec you are recording to. Choose from Apple ProRes® or Avid DNx[Δ].

[Δ] Available as optional extra.

Continuous Power Battery Indicator
Shows which battery is currently being used to power the Samurai. You are free to replace the one that *isn't* being used, the current active battery is illuminated orange

Continuous-Power



HD-SDI In

HD-SDI out
→Record loop through
→PLAYOUT

LANC in

LANC Loop out

Stereo in

Headphone

Record Trigger
Select this to ARM and record from the TCF trigger of your source feed, camera or other SDI device

Audio Input Level Meters + Headphone Line Out Volume
Touch Audio Meters to adjust up to 14 channels audio and set eadphone level.

Timecode
Choose between **On Board, time of day, record run or auto restart time code modes** or utilise **external timecode** from camera or any source input

Unit Name
Name your Samurai by project or camera. Media drives are subsequently named with the unit name upon formatting.

Time Remaining
Shows remaining record time. Remaining time is calculated dynamically and is based on the bitrate of the current recording format and the memory capacity of the HDD/SSD in use.

Master Caddy Slot
Simple, locking **HDD/SSD system**. Less than €5 per HDD/SSD case, this is a safe practical solution to video media management

Record & Monitor

Playback

Audio Control

Continuous-Power

Continuous Power from Hot-Swappable Batteries

Powering video devices on location is no longer a worry...

Samurai has two battery compartments but only uses one at a time and switches to the second battery when the first is depleted.

Simply swap batteries on the fly without stopping the production.

CONNECT CONVERTERS

Add HDMI In & Out with Connect Converters

Seamlessly add HDMI I/O to the Samurai via SDI to HDMI and HDMI to SDI Connect converters

Connect converters integrate with the battery plate of the Samurai, adding continuous conversion while still allowing battery hot-swapping on both devices. Connect converters even remove pulldown, for true 24p, 25p and 30p recording.

S2H/H2S

HDMI → HD-SDI OR HD-SDI → HDMI

Master or back up your recordings in 10-bit, 4:2:2 post-production quality – up to 220 mbps

Recording to the highest quality 10-bit 4:2:2 editing format at the camera simply makes sense. Editing codecs are I-frame only, with higher quality & bitrates than in-camera camera codecs. You'll slash your ingest time, avoid transcoding, and save money on your production. The Samurai takes any uncompressed HD/SD video and, in hardware, encodes it in real-time to 10-bit, 4:2:2 Apple ProRes® or Avid DNx$^{\Delta}$, both renowned across the industry as class-leading codecs for editing and post-production.

Any HD/SD-SDI or HDMI source...

Cameras, Decks, Switchers 3:2 Pulldown Removal & 3D-Ready

The Samurai has HD/SD-SDI In and Out as well as a Loop-Through of incoming video and signal clocks for onward integration.

Virtually any device receiving or transmitting an HD or SD SDI signal is compatible with the Samurai, including Cameras, Decks, Switchers, Routers and Audio equipment. We have even added the ability to automatically detect and remove 3:2 pulldown and other types of cadence for true 24p, 25p and 30p recording.

Samurai fully meets Broadcast specifications for SDI ingest and playout, for trustworthy and effortless integration into any video environment.

Every camera needs a Samurai. It's the ultimate Recorder and Monitor in a single, compact device. For live, multi-camera productions, it's so cost-effective you can ISO record each camera's footage as well as the final mix on individual Samurais.

3D is now affordable with the Samurai. With genlocked cameras and an individual Samurai to record each leg of the stereo pair, it's easy to transfer the files to a stereo editing system, combining the material instantly and accurately on the timeline.

Ready to deliver, on low-cost, high-capacity HDD or SSD

HDD SSD COMPATIBLE

Samurai liberates you from the financial and operational constraints of expensive Flash media (e.g. SxS and P2) by allowing you to use cheap, commodity storage that's available anywhere. Choose massive yet inexpensive 2.5" Hard Disk Drives (Spinning Disks) for 90% of projects and Flash-based SSDs for rough-and-tumble or high security use. HDDs are now cheaper than tapes! Store them on a shelf or hand them to your client.

Modern commodity storage is extraordinarily sophisticated and extremely reliable.

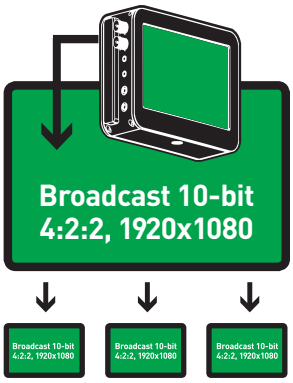
A 750GB/5400rpm drive holds up to 16 hours of high quality Apple ProRes® or Avid DNx$^{\Delta}$ footage and costs under €70.

For recommended drives visit: www.atomos.com

Pristine Playout, Broadcast and Review!

Use your Samurai's gorgeous 5" 800 x 480 16:9 screen to review and instantly navigate through your clips. Review an entire day's shoot on-set or on the way home, with high-quality playback and comprehensive clip navigation controls. Instantly show your material to production colleagues, clients or talent, and check each shot in detail, during or after the shoot.

Play out footage on-set via SDI or HDMI*, on any size of screen, direct from Apple ProRes® or Avid DNxHD$^{\Delta}$ in uncompressed HD quality. No need to transfer files to a computer: just touch "Play" on the Samurai touchscreen. Your Full HD recordings anywhere, with up to of 10 hours playback on one battery charge (and don't forget our patent-pending Continuous Power for uninterruptable operation).



Use Samurai to play directly on-air from a remote location: full quality HD-SDI playback from a deck in the palm of your hand. In the studio, genlock your Samurai's playout with any genlocked SDI source on the Samurai input.

Controls include:

- → 16x and 64x forward + reverse
- → instant scrub (any length of clip)
- → frame forward + backwards

Instant editing on MAC or PC!

Samurai takes you into the efficient and cost-effective world of file-based workflows. By recording directly to a production-quality, edit-friendly format, it bypasses the camera's codec and eliminates the time-consuming capture process.

The Samurai's tight integration with Apple ProRes® and Avid DNx$^{\Delta}$ means recorded footage is instantly and natively editable in **Final Cut, Media Composer, Premiere, Edius, Vegas** and **Lightworks.**

And remember – Apple ProRes® and Avid DNx$^{\Delta}$ are better editing codecs than long-GOP delivery or in-camera codecs like MPEG2, AVCHD etc – easily exceeding broadcast production bitrate requirements. Simply insert your Master Caddy Disk into the Docking Station (FW800 & USB 3/2) to start editing instantly – or transfer your footage to a SAN or NAS for central storage and collaborative editing.

Upgrade cameras from the past 20 years!

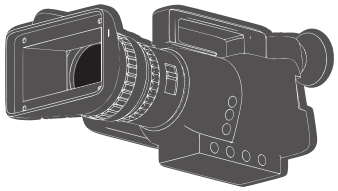
Samurai records direct from the HD/SD-SDI output from your camera. So if you've got an older camera with HD/SD-SDI - like HDCAM or DVCProHD - just plug in a Samurai and bring it into the world of file-based production. **You'll get better quality from your old camera than when it was new!**

Everything you need

Samurai works right out of the box, you can be using it within minutes! We supply everything (except storage media) in a tough professional carry case.

FROM SENSOR TO EDIT SUITE
UNCOMPRESSED 10-BIT HD/SD

Uncompressed 8/10-bit HD/SD from HD-SDI

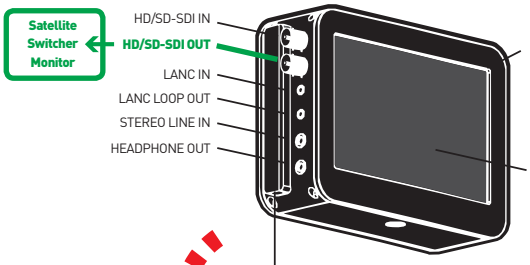


HD-SDI

To Apple ProRes® or AVID DNxHD on HDD/SSD

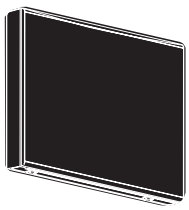
ProRes Avid DNxHD[Δ]

REAL-TIME PULLDOWN REMOVAL



EJECT MASTER CADDY

REMOVABLE LOW COST 2½" HDD/SSD CONNECTS VIA USB 2/3 OR FIREWIRE® 800

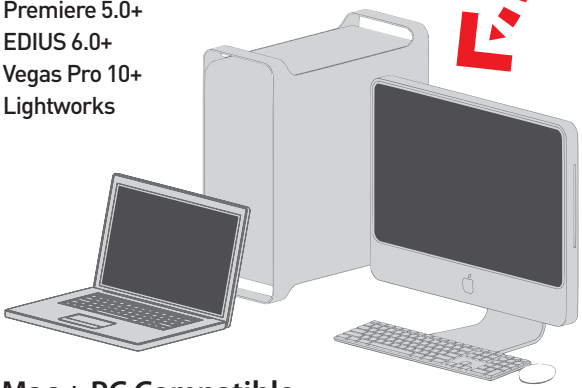


CONNECT TO ANY WORKSTATION VIA MASTER CADDY DOCKING STATION

DOCK

Ready to Edit

FCPX/FCP7+
Media Composer 5.0+
Premiere 5.0+
EDIUS 6.0+
Vegas Pro 10+
Lightworks



Mac + PC Compatible

SAMURAI TECH SPECS

Samurai Main Unit

Light Weight	390g (without Batteries & HDD) 690g (with Batteries & HDD)	
Dimensions (without Batteries)	140(W)x87(H)x41(D)mm	
Construction	Aircraft grade aluminium for durability + portability. Fanless for silent operation.	
Operating Power	3.3W (Monitoring Only) / 6.8W (Rec, Mon & Play)	
Batteries 7.2V-14.4V Battery System Compatible any source NP Series DTap and supporting accessories	**all 7.4v** 1. 2600mAh - Up to 4hrs 2. 5200mAh - Up to 8hrs 3. 7800mAh - Up to 12hrs 4. AC Power via adaptor plate (option) 5. DTap Dummy Battery (Cables sold separately)	
Continuous Power* Power that never ends	Primary-Secondary battery system. Change batteries without losing power. Loop batteries continuously. *Patent Pending	
Touchscreen	Size: 5" diagonal. Resolution: 800x480 Aspect Ratio: 16:9 native /4:3 Letterbox. Screen Flipping enabled	
Video Input Uncompressed 10/8-bit 4:2:2 Simultaneously displayed on internal 5" Samurai screen Mini BNC to BNC cables provided	3G/HD/SD-SDI x 1 HDMI x 1 (with optional H2S Connect HDMI -> SDI converter)	DI SMPTE 259/292/296 Mini BNC (with BNC Adaptor cables) HDMI v1.4
Video Out Uncompressed 10-bit 4:2:2 Simultaneously displayed on internal 5" Samurai screen Mini BNC to BNC cables provided	3G/HD/SD-SDI x 1 HDMI x 1 (with optional S2H Connect SDI > HDMI converter)	DI SMPTE 259/292/296 Mini BNC (with BNC Adaptor cables) HDMI v1.4
Supported Formats (In/Out)	**HD 1080i60, 1080i59.94, 1080i50, 1080p30, 1080p25, 1080p24, 1080p23.98, 1080pSF23.98, 1080pSF24, 1080pSF25, 1080pSF30, 720p60, 720p59.94, 720p50, SD 480i, 486i, 576i**	
Realtime Hardware Encoding 1920x1080 8/10-bit 4:2:2 to:	→ **Apple ProRes®**	HQ - 220Mbps 422 - 150Mbps LT - 100Mbps
	→ **Avid DNx[Δ]**	HD - 220Mbps HD - 145Mb/s
Onboard Processing Auto detect and remove or insert pulldown	25pSF (50i) → 25p 30pSF (60i) → 30p 24p (3:2-60i) → 24p 23.98p (3:2-59.94i) → 23.98p	
Audio input 48kHZ PCM audio	SDI 12 channels + 2 analogue channels with gain controls	
Audio output 48kHZ PCM audio	SDI 12 channels + Headphone for onboard review. (Select any pair of channels)	
Remote start and stop	Via SDI trigger / Via SD timecode / Via Lanc controller Via Lanc timecode / Via touchscreen interface	
Customisable Remote Controls (Control all Samurai Functions)	System integrator custom controls available on request	
Genlock sync for Broadcast and 3D infrastructure	Any incoming Genlock signal is looped out of the SDI-out of the Samurai. SDI playout is genlockable from any external genlocked SDI fed into the SDI input. For 3D, two Samurais will genlock together if fed signals from a genlocked camera pair.	

Recording Time	**Edit Formats** (I-Frame Only, 422, 8/10-bit)	**HDD or SSD**		
		250GB	**500GB**	**1 TB**
HDD & SSD's are hot swapable on the fly in the field ProRes Avid DNxHD[Δ]	**ProRes® HQ (10-bit, 220Mbps)**	2.5 hrs	5hrs	10hrs
	Avid DNxHD[Δ] 220x (10 bit, 220Mbps)	2.5 hrs	5hrs	10hrs
	ProRes® 422 (10 bit, 150Mbps)	4 hrs	8hrs	16hrs
	Avid DNxHD[Δ] 145 (8 bit, 145Mbps)	4 hrs	8hrs	16hrs
	ProRes® LT (10 bit, 100Mbps)	5.5 hrs	11hrs	22hrs

Master Caddy Case for HDD or SSD *2.5" SSD or HDD minimum 5400rpm to 10,000 rpm Standard 9.5mm height*	75x105x12mm **For recommended drives visit: www.atomos.com** Available in packs of 5 for €25
Master Caddy Dock	2.5" internal drive SATA to FireWire® 800, USB2.0/3.0
Supported Applications	**FCPX/FCP7+ / Media Composer 5.0+ / Premiere 5.0+ EDIUS 6.0+ / Vegas Pro 10+ / Lightworks**
Accessories included	• Universal Battery Charger 110-240V • Docking station and Leads • 2 x Master Caddy Cases • 2 x Atomos 2600mAh batteries • Rugged Carry case • BNC Adaptor cables • DTap Dummy Battery
Optional extras	• Avid DNxHD[Δ] Codec • Connect H2S converter • Connect S2H converter • 5 x Master Caddy Cases • Atomos AC Adapter • DTap Dummy Battery • Docking station and Leads • Sun hood • Cable Clamp • Replacement Foam

[Δ] Avid DNxHD codec available as optional extra.

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